THE president, vice-president, and council of the Royal College of Surgeons in Ireland have decided to place in the college a permanent record of the names of all the students, licentiates, and fellows of the college who are at present serving with his Majesty's Navy and Expeditionary Forces, and further to erect a suitable memorial to all such as fall in the war. The president, vice-president, and council will be glad if the relatives and friends would communicate the names of such students, licentiates, and fellows to the registrar of the college.

IN an article in *Science* for December 25, Mr. John C. Burg, of North-Western University, Chicago, examines and summarises the registration statistics for November 1, 1914, of some thirty universities in the United States. The largest gains for the year in the number of students were as follows:—Columbia, 1365; California, 1109; Pittsburgh, 1069; Ohio State, 832; Wisconsin, 806; Harvard, 784; New York, 634; Minnesota, 552; Pennsylvania, 536. The eight universities with the largest total number of students are given in the article as:—Columbia, 11,294; California, 8180; Chicago, 7131; Wisconsin, 6696; Pennsylvania, 6505; Harvard, 6411; Michigan, 6319; New York University, 6142. In the scientific schools, that is, including the schools of mines, engineering, chemistry, and related subjects, Illinois takes the lead with 1406 students, followed by Cornell, 1363, Michigan, 1347, Yale, 1056, Pennsylvania, 906, Ohio State, 851, Wisconsin, 796, and California, 763.

IT is announced in the issue of *Science* for January 8 that the sum of 486,000*l.* was obtained for Wellesley College in the fourteen months ended in December, 1914, according to a statement given out by the treasurer. Of this amount 86,000*l.*, including a conditional pledge of 40,000*l.* from the General Educational Board, was raised before the fire of March 17, when College Hall was burned. The remaining 400,000*l.* includes a pledge from the Rockefeller Foundation of 150,000*l.* Only three gifts of more than 2000*l.* were received since last August. One of these was a gift from Mr. Carnegie of 19,000*l.* for the enlargement of the library. From the same source we learn that the Massachusetts Institute of Technology received in gifts during the past year the sum of 80,000*l.*, besides two items wherein the institute is residuary legatee, and the amounts have not been determined. Among the gifts may be mentioned: bequest of Caroline L. W. French (outright), 20,000*l.*; (residue), 20,000*l.*; Lucius Tuttle, 10,000*l.*; and Nathaniel Thayer, 10,000*l.*

THE issue for January of the Technical Journal of the Association of Teachers in Technical Institutions contains an interesting article on the Massachusetts Institute of Technology. This article is written by Dr. Tyler, Walker professor of mathematics, and Mr. R. C. Maclaurin, president of the college. It may be noted that not only is admission to the college regulated by means of entrance examinations, but there is a continual weeding out of those students who do not display the requisite ability and application. New students are examined periodically, and if their work proves to be unsatisfactory they are required to withdraw. Some of our own colleges could copy this system, and thereby show a considerable improvement in their produce. In the same journal there is an article on laboratories for building trade students, by Mr. G. Arnall. This article suggests that the time is ripe for the institution of separate laboratories for such students, in which the testing of cements, timber, ferro-concrete, etc., could be studied practically. The scheme will probably involve considerable modification of building courses, and the author invites his colleagues in this branch of teaching to submit model syllabuses of laboratory experiments.

IN Circular 885, issued on January 11, the Board of Education states that there is likely to be some difficulty in procuring in this country adequate supplies of chemical laboratory glassware. These articles have ordinarily been imported from Germany and Austria, and they have not hitherto been manufactured in this country except in negligible quantities. Steps to ensure the production of chemical glassware in this country are being taken, but in view of the technical and other difficulties which have to be overcome it must necessarily be some considerable time before there can be production on a large and sufficient scale. Having regard to the extent to which many of the manufacturing industries of the country, including some of special value at the present crisis, require chemical glassware for analytical and other purposes connected with the various industrial processes, it is important that every effort should be made to economise in the use of stocks of such ware now in the hands of educational establishments. These stocks should be examined and a careful record kept of quantities and consumption. Every effort should be made to avoid breakages, and it will probably be found possible to economise in the consumption of "Jena" vessels by the substitution in certain cases of other kinds of glass receptacles. Fresh orders should not be given to manufacturers or supplying agencies for the present, where this can possibly be avoided. The Board of Education is confident that local education authorities and schools and colleges will do their best to assist the Government in the matter.

SOCIETIES AND ACADEMIES.

LONDON.

Mathematical Society, January 14.—Sir Joseph Larmor, president, and afterwards Prof. A. E. H. Love, vice-president, in the chair.—Prof. H. M. **Macdonald**: A class of diffraction problems.—H. E. J. **Curzon**: Halphen's transformation.—Dr. A. **Young**: A Christmas problem in probabilities.—W. E. H. **Berwick**: The condition that a quintic equation should be soluble by radicles.—Sir J. **Larmor**: The variation of the earth's angular velocity of rotation.

PARIS.

Academy of Sciences, January 4.—M. A. Perrier in the chair.—G. **Bigourdan**: The rapid testing of small telescopes. The method proposed, which is easily and rapidly carried out, is a relative one, comparison being made with a standard telescope. The instrument is focussed on a square, one centimetre in the side, containing a group of black lines ruled at equal distances. The number of lines in the centimetre varies from 4 to 20, and the white interspaces are equal in width to the black lines. Details of the mode of testing separating power, astigmatism and field are given.—L. **Landouzy**: a flexible and non-inflammable gelatine film, suitable for radiology. A description of the preparation and use of thin gelatine plates designed to replace the ordinary glass-coated plates. The unexposed plates, with cardboard supporting frame, weigh 8 per cent. of the weight of the ordinary plate, and after exposure and removal of the film from the frame, this is reduced to 2·8 per cent. Additional advantages as compared with glass plates are cheapness, non-fragility, flexibility, enabling the plate to be inserted into awkward positions without damage, and as compared with celluloid, non-inflammability and perfection of detail.—Edouard **Heckel**: *Solanum*

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Caldasii and the cultural bud mutation of its subterranean parts. This variety has received several names, and in the author's opinion the classification is too artificial. Proofs are given of the mutation of this wild potato.—MM. **Camichel, Eydoux,** and **Lhériaud**: The Venturi meter. A discussion of the accuracy of the Venturi water meter. The theoretical formula is $q = \lambda a\sqrt{p_1 - p_2}$, in which q is the quantity, $(p_1 - p_2)$ the difference of pressure between the main tube and the construction, and λ a factor less than unity depending on the internal friction of the liquid. Experimental results with a Venturi gauge of 300 mm. diameter, contraction $\frac{1}{4}$, and flow varying from 60 to 160 litres a second. The value of λ was found to be 1, the error of experiment being under 1 per cent. Similar results were obtained with a larger instrument, passing 800 to 3000 litres a second.—Emile **Saillard**: The estimation of saccharose in beet molasses. Inversion method with double neutral polarisation. The method proposed eliminates errors due to the action of alkaline salts upon saccharose and on invert sugar, and also errors caused by the products of the action of alkaline salts upon active nitrogen compounds present in the beet molasses.—N. **Arabu**: Studies on the Tertiary formation of the basin of the Sea of Marmora. The Vindobonian stage of Troade.—J. de **Rey-Pailhade**: The existence of philothion in the crystalline lens of the eyes of animals. Philothion is a special albumen, characterised by the existence in its molecule of labile hydrogen capable of combining with free sulphur at a temperature of 40° C., with production of sulphuretted hydrogen.—M. **Tiffeneau**: The destination of chloralose in the organism and its relations with glycuronic compounds. In the dog, chloralose is eliminated in part unchanged, and partly in the form of a new acid, chloralose-glycuronic acid. Chloralose does not give rise to chloral and glucose in the organism, and its physiological effects are not due to the chloral it contains.

NEW SOUTH WALES.

Linnean Society, November 25, 1914.—Mr. W. S. Dun, president, in the chair.—A. M. **Lea**: Descriptions of new species of Australian Coleoptera. Part x. Three genera and forty-eight species (families Lucanidæ, Malacodermidæ, Curculionidæ, and Chrysomelidæ) are described as new.—C. **Hedley**: Studies on Australian Mollusca. Part xii. This paper continues the subject of previous communications, and embraces notes gathered abroad in the British and other museums. The Australian species formerly grouped under Voluta are enumerated, revised, and arranged in modern genera. A partial revision of Thais and Zafra is attempted, and various critical species of Arcularia, Montfortia, Tallorbis, and Acmæa are discussed.—L. A. **Cotton**: The diamond-deposits of Copeton, New South Wales. A description of the variations in the Tertiary stream-deposits is given, together with the relations of these to the distribution of the diamonds. The investigation has made clear the relations of the various parts of the Tertiary leads, and, incidentally, has suggested an interesting physiographical feature. It is pointed out that it is highly probable that the Gwydir and Macintyre Rivers of Tertiary times originally formed one stream uniting a little to the west of Inverell. An important discovery was made by Mr. A. R. Pike, in 1904, which has a significant bearing on the origin of the diamond. This was the finding of a diamond in a matrix of dolerite. Later investigation has indicated that it is probable that most, if not all, the diamonds in the field have been derived from this type of rock.—Dr. R. **Greig-Smith**: Contributions to a knowledge of soil-fertility. No. xii.—The action of toluene upon the soil-protozoa. The action of toluene upon the protozoa of the soil depends upon the moisture-content. When less than one-tenth of the water-holding capacity of the soil is present, certain members of the Ciliates, Amœbæ and Flagellates may not be destroyed when amounts up to 20 per cent. of toluene are added to the soil. If more than one-tenth of the water-holding capacity is present, the Ciliates are destroyed by 1 per cent. or 2 per cent. of toluene, while the action upon the Amœbæ and Flagellates is irregular. Conditions which destroy the sulphur-oxidising bacteria, also destroy the Ciliates.—Rev. W. W. **Watts**: Some notes on the ferns of North Queensland. These notes are the result of a trip through the Cairns district, as far south as Bartle Frere and the Russell River, and as far west as the Tully Falls.—Archdeacon F. E. **Haviland**: The pollination of *Goodenia cycloptera*, R. Br. *G. cycloptera*, R. Br., is a decumbent species, in this State, generally restricted to the western plains. The process of pollination, as the result of three years' observation, is described.—A. F. Basset **Hull**: A collection of fossil Polyplacophora from N.W. Tasmania, with descriptions of three new species. In addition to valves of *Lorica duniana*, Hull, and *Chiton fossinus*, Ashby and Torr, the collection studied comprised the remains of three strongly marked species of Loricella, hitherto undescribed. The fossils are from the well-known beds between Wynyard and Table Cape.

BOOKS RECEIVED.

Scottish National Antarctic Expedition. *Scotia* Collection of Atlantic Fishes. By R. S. Clark. Pp. 379–401+2 maps. (Edinburgh: Scottish Oceanographical Laboratory.) 1*s*. 3*d*.

Scottish National Antarctic Expedition. The Whale Fisheries of the Falkland Islands and Dependencies. By T. E. Salvesen. Pp. 479–486+10 plates and text map. (Edinburgh: Scottish Oceanographical Laboratory.) 3*s*.

Ordnance Survey. Professional Papers. New series. No. 3. Notes on the Geodesy of the British Isles. By Col. C. F. Close. Pp. 33. (London: H.M.S.O.; Wyman and Sons, Ltd.) 1*s*. 6*d*.

Willing's Press Guide. Forty-second year. Pp. 470. (London: J. Willing, Ltd.) 1*s*.

A Treatise on the Analytic Geometry of Three Dimensions. By Dr. G. Salmon. Edited by R. A. P. Rogers. Fifth edition. Vol. ii. Pp. xvi+334. (London: Longmans and Co.; Dublin: Hodges, Figgis and Co., Ltd.) 7*s*. 6*d*. net.

War Map of Central Europe, after B. V. Darbishire's Wall Map. (Oxford University Press.) 3*d*. net.

The Teaching of Algebra (including Trigonometry). By Prof. T. P. Nunn. Pp. xiv+616. (London: Longmans and Co.) 7*s*. 6*d*.

Exercises in Algebra (including Trigonometry). By Prof. T. P. Nunn. Part 1. Pp. x+356+Answers, pp. 357–421. Part 2. Pp. xi+514+Answers, pp. 515–551. (London: Longmans and Co.) 4*s*. and 6*s*. 6*d*. respectively.

Artificial Waterways of the World. By A. B. Hepburn. Pp. xi+171. (London: Macmillan and Co., Ltd.) 5*s*. 6*d*. net.

An Introduction to Field Archæology as Illustrated by Hampshire. By Dr. J. P. Williams-Freeman. Pp. xxii+462. (London: Macmillan and Co., Ltd.) 15*s*. net.

Carnegie Endowment for International Peace. Year Book for 1913–14. Pp. xviii+203. (Washington, D.C.)

How Belgium Saved Europe. By Dr. C. Sarolea. Pp. x+226. (London: W. Heinemann.) 2*s*. net.

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